implantation between January 2013 and March 2015, including SAPIEN XT (Jan 2013-September 2014) and SAPIEN 3 (October 2014-March 2015). All patients presented severe aortic stenosis who were refused for conventional surgery. Procedure success, clinical outcomes and peri-procedural complications were prospectively assessed according to the Valve Academic Research Consortium (VARC)-2 criteria.

RESULTS N=142 consecutive patients who underwent TAVR using SAPIEN device were included in the study (n=76 SAPIEN XT and n=66 SAPIEN 3). There was no difference between groups regarding age, Euroscore, gender, previous medical history and left ventricle ejection fraction. However, SAPIEN 3 patients had a higher prevalence of peripheral arterial disease (65.2 vs. 36.8%, p=0.001) and ilio-femoral axis calcifications on scanner (47.9 vs; 26.5 %, p=0.008) than the others. Moreover, SAPIEN 3 patients had a smaller aortic valve area than SAPIEN-XT subjects (0.67±0.9 vs 0.76 ± 0.14 cm2/m2, p=0.007), yet there was no significant difference in aortic annulus diameter (25±4.5 vs 23.8±2 mm, p=ns). TAVR was performed through transfemoral access in 96% in both groups. Device implantation success rate was higher (100% vs. 90%, p=0.002) in the SAPIEN 3 than in the SAPIEN-XT group .The prevalence of moderate to severe paravalvular leak was lower in SAPIEN 3 than in SAPIEN-XT patients (0% vs 9.2%, p=0.01). We observed fewer hemorrhagic events in the SAPIEN 3 group than in the other, as assessed by the lower incidence of life-threatening +major bleeding events (0% vs 9.2%, p=0.01). There was no difference regarding the 30-days rate of MACCE (major adverse cardiovascular & cerebrovascular events) between patients, including no difference in terms of death (3% vs. 5%), stroke (3% vs. 2.6%) and major vascular complications (6% vs. 13.1%). Finally, the rate of permanent pacemaker implantation were comparable in both groups (10.6 vs. 14.5%, p=0.49).

CONCLUSIONS The use Edwards SAPIEN 3 allows TAVR in patients with more severe peripheral artery disease. Moreover, this device provides excellent short-term outcome and lower rates of paravalvular regurgitations compared to the previous generation SAPIEN-XT valve.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Outcomes, Paravalvular leak, TAVR

TCT-627

Left Ventricular Mass Regression After Transcatheter Or Surgical Aortic Valve Replacement: Importance Of Stroke Volume And The Left Ventricular Mass Formula

Jae K. Oh,[1] Grace Lin,[1] Sahar S. Abdelmoneim,[1] Ana Kadkhodayan,[1] Stephen H. Little,[2] David Adams,[3] Michael J. Reardon,[4] David A. Orsinelli,[5] Jeffrey Popma[6]
[1]Mayo Clinic College of Medicine, Rochester, MN; [2]Houston Methodist DeBakey Heart & Vascular Center, Houston, United States; [3]The Mount Sinai Health System, New York, United States; [4]Houston Methodist DeBakey Heart & Vascular Center, Houston, TX; [5]The Ohio State University Medical Center, Columbus, OH; [6]Beth Israel Deaconess Medical Center, Boston, MA

BACKGROUND Prospective randomized trials have demonstrated that transcatheter aortic valve replacement (TAVR) is an effective alternative to surgical aortic valve replacement (SAVR) for patients with severe aortic stenosis at increased surgical risk, but reasons why left ventricular (LV) mass regresses more rapidly and to a greater extent after SAVR than TAVR despite a higher AV gradient after SAVR is unknown. We sought to determine why LV mass regression is greater after SAVR.

METHODS Baseline and serial echocardiography studies of patients randomized to SAVR with a bioprosthetic valve vs TAVR with a self-expanding CoreValve were analyzed by an Echo Core Lab blinded to treatment and outcomes. Echocardiography measurements including AV gradient were performed according to established guidelines and LV mass was calculated using the formula of Devereaux et al: 0.83 x ([(LVEDD + LVPWT + IVS)^3 - [(LVEDD)^3]) +0.6. LVEDD=LV end-diastolic dimension, PWT=posterior wall thickness, and IVST=interventricular septal thickness.

RESULTS Echo data were available in 389 TAVR and 353 SAVR patients (Table). LVEDD, PWT, IVS, LV mass, and SV were similar in TAVR and SAVR at baseline. These variables were unchanged at discharge with TAVR. However, after SAVR at discharge, LV mass decreased from 227.45±65.02 to 215.08±59.02 gm (P=0.002), and LVEDD from 5.01±0.64 to 4.81±0.65 cm (P<0.0001), although PWT and IVS were unchanged. 2D derived stroke volume (SV) also declined at discharge from 72.64±27.04 mL to 58.93±21.10 mL (P=0.01) after SAVR, but not after TAVR (70.42±27.21 mL to 70.36±24.48 mL; P=0.46). Similar changes were observed with Doppler derived SV. At 1 year, LV mass, SV and LVEDD remained smaller following SAVR vs. TAVR, a difference that persisted after exclusion of those with ≥ moderate aortic regurgitation (AR).

CONCLUSIONS Greater LV mass regression after SAVR is due to smaller post-operative LVEDD associated with lower SV after SAVR than TAVR. Further study is needed to identify the reasons for reduced SV after SAVR.

CATEGORIES STRUCTURAL: Valvular Disease: Aortic

KEYWORDS Aortic valve replacement, Echocardiographic assessment, Transcatheter aortic valve replacement

Table. Echocardiographic Parameters by Treatment Over Time

	Baseline		Discharge		1 Month		6 Months		1 Year	
	TAVR	SAVR	TAVR	SAVR	TAVR	SAVR	TAVR	SAVR	TAVR	SAVR
LVEDD (cm)	4.97 ± 0.63 (347)	5.01 ± 0.64 (311)	4.91 ± 0.64 (303)	4.81 ± 0.65 (225)	4.99 ± 0.65 (318)	4.74 ± 0.66 (247)	5.01 ± 0.67 (279)	4.74 ± 0.63 (206)	4.98 ± 0.66 (262)	4.80 ± 0.56 (190)
IVST (mm)	11.97 ± 2.35 (341)	12.00 ± 2.07 (309)	12.26 ± 2.41 (295)	11.99 ± 1.94 (219)	11.79 ± 2.12 (312)	11.68 ± 2.09 (245)	11.50 ± 2.32 (269)	11.62 ± 1.97 (205)	11.35 ± 2.17 (257)	11.48 ± 2.37 (189)
PWT (mm)	11.19 ± 1.98 (338)	11.24 ± 1.95 (311)	11.39 ± 2.05 (297)	11.45 ± 1.73 (216)	11.05 ± 1.83 (307)	10.96 ± 1.79 (237)	10.57 ± 1.82 (266)	11.12 ± 1.87 (199)	10.51 ± 1.89 (255)	10.21 ± 1.96 (189)
SV by 2DE (mL)	70.42 ± 27.21 (185)	72.64 ± 27.04 (171)	70.36 ± 24.48 (168)	58.93 ± 21.10 (122)	74.36 ± 24.59 (173)	59.76 ± 20.71 (123)	72.37 ± 22.04 (141)	66.34 ± 22.74 (100)	73.45 ± 23.81 (118)	71.45 ± 22.01 (81)
Doppler SV (mL)	75.77 ± 23.49 (349)	74.96 ± 20.16 (307)	74.89 ± 19.90 (335)	63.35 ± 19.71 (256)	77.93 ± 23.53 (349)	67.59 ± 20.29 (282)	79.69 ± 23.33 (297)	73.57 ± 20.35 (224)	79.56 ± 22.90 (278)	74.78 ± 21.35 (206)
LV mass (gm)	226.07 ± 72.54 (333)	227.45 ± 65.02 (304)	226.78 ± 72.98 (291)	215.08 ± 59.02 (212)	221.19 ± 69.63 (303)	200.22 ± 58.38 (232)	213.07 ± 65.74 (260)	201.79 ± 57.83 (196)	207.83 ± 64.02 (247)	192.71 ± 58.54 (185)
LV mass index (gm/m^2)	122.45 ± 35.73 (333)	123.54 ± 33.55 (304)	122.82 ± 35.97 (291)	116.43 ± 28.94 (212)	119.45 ± 33.88 (303)	108.83 ± 29.31 (232)	114.23 ± 30.74 (260)	108.67 ± 26.81 (196)	111.35 ± 29.85 (247)	102.80 ± 27.99 (185)
≥ Moderate AR (%)	5.2% (20/385)	6.1% (21/346)	9.1% (33/363)	1.0% (3/306)	10.0% (36/359)	1.3% (4/308)	11.3% (36/318)	1.6% (4/252)	7.1% (21/297)	1.3% (3/223)

TCT-628

Prospective Non-randomized Comparison Between Three Transcatheter Aortic Valve Replacement Devices: Accurate vs Corevalve vs Sapien XT. A Single Heart Team Experience in Patients With Severe Aortic Stenosis

Tannas Jatene,[1] Antonio d Castro Filho,[2] Rafael A. Meneguz-Moreno,[3] Dimytri A. Siqueira,[2] Alexandre Abizaid,[4] Auristela I. Ramos,[5] Magaly Arrais,[6] David Le Bihan,[7] Rodrigo B. Barreto,[7] Adriana Moreira,[8] J. Eduardo Sousa,[9] Amanda Sousa[10]
[1]Instituto Dante Pazzanese de Cardiologia, Sao Paulo, Sao Paulo; [2]Dante Pazzanese Institute of Cardiology, São Paulo, Brazil; [3]Institute Dante Pazzanese of Cardiology, Sao Paulo, Sao Paulo/SP; [4]Instituto Dante Pazzanese de Cardiologia, São Paulo, Brazil; [5]Instituto Dante Pazzanese de Cardiologia, Sao Paulo, São Paulo; [6]Instituto Dante Pazzanese de Cardiologia, São Paulo, Brazil; [7]Instituto Dante Pazzanese de Cardiologia, São Paulo, São Paulo; [8]HCor, São Paulo, Bouvet Island; [9]Instituto Dante Pazzanese de Cardiologia, São Paulo, CA; [10]Dante Pazzanese, São Paulo, Brazil

BACKGROUND This is the first study comparing outcomes after transfemoral transcatheter aortic valve replacement (TAVR) with Symetis ACURATE (ACT) - a new device -, Medtronic CoreValve (MCV) and Edwards Sapien XT (SXT).

METHODS We prospectively evaluated patients with severe aortic stenosis undergoing transfemoral TAVR at two centers coordinated by the same Heart Team. Study objectives were echocardiography findings and Valve Academic Research Consortium (VARC) at 30 days.

RESULTS We evaluated 162 patients (ACT n=48, MCV n=57, SXT n=57). Baseline clinical and imaging features are resumed in Table 1. Immediately after the procedure, Device Success were lower with MCV (97.9% vs 86% vs 94.7%; p=0,049), as well as Aortic Valve Area (1.90±0.26 vs 1.81±0.32 vs 2.01±0.28; p=0.002), with no differences in Mean Gradient (p=0.752) or Moderate/Severe Aortic Regurgitation (p=0.272). At 30 days, there were no significant difference in all-cause mortality (p=0.298), cardiovascular mortality (p=0.222), myocardial infarction (p=0.776) and stroke (p=0.999). Additionally, no differences were found in major vascular complications (p=0.594), life-threatening bleeding (0.378) and stage 3 acute kidney injury